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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/872,329	06/01/2001	Mitchell T. Berg	29820.7	2894

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Seed Intellectual Property Law Group, PLLC  
701 Fifth Avenue  
Suite 6300  
Seattle, WA 98105

EXAMINER

AVELLINO, JOSEPH E

ART UNIT	PAPER NUMBER
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2143

DATE MAILED: 08/26/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/872,329

Applicant(s)

BERG, MITCHELL T.

Examiner

Joseph E. Avellino

Art Unit

2143

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 01 August 2001.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-34 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-34 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 2001/10/03.
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: \_\_\_\_\_.

### DETAILED ACTION

1. Claims 1-34 are presented for examination with claims 1 and 18 independent.

### ***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-11, 13-16, 18-28, and 30-33 are rejected under 35 U.S.C. 102(b) as being anticipated by Aversa et al. (Load Balancing a Cluster of Web Servers Technical Report BUCS-TR-1999-01, Boston University, Computer Science Department, January, 1999) (cited by Applicant in IDS) (hereinafter Aversa).

3. Referring to claim 1, Aversa discloses an information processing system, comprising:

a first computing device (in the example given in the reference it is referred to as "Server 4") (Figure 2) for:

receiving an initialization packet (i.e. SYN) originating from a client (p. 5, ¶ 2-3);

in response to at least the initialization packet, outputting a response packet (i.e. ACK) to the client (it is an inherent feature of the system that an ACK is sent

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to the client in order to tell the client that the connection is opened, this is one of the building blocks of the HTTP protocol);

receiving a request packet originating from the client (p. 4, ¶ 2); and

in response to at least the request packet and a state of at least one of the first computing device and a second computing device, selectively outputting the request packet to the second computing device for performing an operation (i.e. transmit resource) in response to the request packet (i.e. Server 4 looks at its own load, and if it is above a threshold, it will examine the load of other servers, in the example, forwarding the connection to Server 2, which has a load below the threshold) (p. 4, ¶ 2).

4. Referring to claim 2, Aversa discloses the first computing device is a NIC (this is an inherent feature of Aversa, since the Server would be unable to communicate with the network if a NIC was not installed on the Server).

5. Referring to claim 3, Aversa discloses the operation is part of a software application (i.e. a web server) (p. 5, ¶ 3).

6. Referring to claim 4, Aversa discloses the software application is a socket application (the Office takes the term "socket application" as any application which either uses, controls, or interfaces with a socket, such as a web server) (p. 5, ¶ 3).

7. Referring to claim 5, Aversa discloses the initialization packet (i.e. SYN packet) is addressed by the client to the first computing device (i.e. Server 4), and wherein the first computing device is for receiving the initialization packet in response to the addressing (an inherent feature of HTTP is that a server always receives a packet to which it is addressed, barring any connection disruptions) (p. 4, ¶ 2).

8. Referring to claim 6, Aversa discloses outputting a response packet to the client and wherein the first computing device is for:

in response to at least the request packet and the state (i.e. server load), selectively outputting the request packet to the second computing device for outputting the response packet to the client, such that the output response packet bypasses the first computing device (i.e. Server 2, responds by sending the requested resource to the client using Server 4 as the source address) (p. 4, ¶ 2; p. 5, ¶ 3).

9. Referring to claim 7, Aversa discloses the first computing device is for receiving the initialization packet through a global computer network (i.e. Internet) (e.g. abstract).

10. Referring to claim 8, Aversa discloses the first computing device is for selectively outputting the request packet to the second computing device through a LAN (Figure 2).

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11. Referring to claim 9, Aversa discloses in response to the at least the initialization packet, establishing a data structure of a connection with a client (i.e. an IP-IP encapsulation packet) (p. 4, ¶ 1); and

In response to at least the request packet and the state, selectively outputting the data structure to the second computing device for associating an application of the second computing device with the data structure of the connection (p. 4, ¶ 1).

12. Referring to claim 10, Aversa discloses in response to at least the initialization packet, establishing a data structure (IP-IP encapsulation packet) of a connection with the client, the data structure including a group of sequence numbers associated with the connection (it is well known that HTTP IP packets have several octets reserved for a sequence number, in order to reassemble the packets at the destination).

13. Claims 11 and 13 are rejected for similar reasons as stated above.

14. Referring to claims 14-16, Aversa discloses the address includes an IP address and a TCP port, (i.e. an IP address of the first computing device and port 80, which is the port of the TCP/IP stack) (p. 5, ¶ 7).

15. Claims 18-28, and 30-33 are rejected for similar reasons as stated above.

***Claim Rejections - 35 USC § 103***

16. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 12, 17, 29 and 34 rejected under 35 U.S.C. 103(a) as being unpatentable over Aversa.

17. Referring to claims 12 and 29, Aversa discloses the invention substantively as described in claim 10. Aversa does not specifically state the group of sequence numbers includes at least one start sequence number, at least one current sequence number, and at least one ACK number. It is well known that HTTP provides for storing current sequence numbers and ACK numbers in order to determine which packets have been received and acknowledged to determine if the requested resource has been fully received. In regards to the start sequence number, it would make sense to track that number for encryption purposes (some encryption algorithms start their sequence numbers at random numbers to confuse any snooping algorithms which think they have missed the beginning part of the sequence). By this rationale it would have been obvious to one of ordinary skill in the art to track the start sequence number, the current sequence number, and the ACK number to keep track of all the packets incoming and



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outgoing from the computing device, thereby providing for a reliable transport protocol for web documents.

18. Referring to claims 17 and 34, Aversa discloses the invention substantively as described in claim 15. Aversa further discloses the port is a TCP port as seen in claim 16, however remains silent over if the port can be a UDP port. It is well known that web servers can exist using UDP ports, and some applications rely upon these ports (web conferencing, gameplay, blizzard.net, etc) in order to provide an almost real-time feel to the content. It would have been obvious to one of ordinary skill in the art to provide for a UDP port to communicate the first computing device to a second computing device in order to rely upon the UDP protocol for a server, thereby increasing the abilities of the web servers and allowing more users access to the network.

### ***Conclusion***

19. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

20. Albert et al. (USPN 6,735,169) discloses cascading multiple services on a forwarding agent.

21. Brendel (USPN 6,587,438) discloses a WWW server that finds optimal path by sending multiple SYN-ACK packets to a single client.

22. Logan et al. (USPN 6,578,066) discloses distributed load-balancing internet services.

23. Cohen et al. (USPN 6,389,462) discloses transparently directing requests for web objects to Proxy Caches.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joseph E. Avellino whose telephone number is (703) 305-7855. The examiner can normally be reached on Monday-Friday 7:00-4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David A. Wiley can be reached on (703) 308-5221. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JEA  
August 2, 2004



DAVID WILEY  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2100